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SORBONNE UNIVERSITÉ

# CALL FOR APPLICATIONS 2025 – FELLOWS

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|---|---|
| **Supervisor** | Thierry Azaïs |
| **Supervisor page** | https://thierry-azais.lcmcp.science/ |
| **Host Institution** | Sorbonne Université<br>https://www.sorbonne-universite.fr/en |
| **Research Lab** | Laboratoire de Chimie de la Matière Condensée de Paris<br>https://lcmcp.science/ |
| **Research Team** | Spectroscopies, modélisation, interfaces pour l'environnement et la santé<br>https://lcmcp.science/smiles/ |

## Project Title

Milliseconds time-resolved solid-state NMR for non-classical nucleation and crystallization

## Project Description

Non-classical formation pathways involve transient intermediates of short life-time and unknown organization, called prenucleation clusters PNC. The project aims to develop a methodology based on cryo-fixation of out-of-equilibrium solutions to trap such PNC thanks to a unique equipment enabling the vitrification and the NMR rotor preparation of reacting solutions on milliseconds time-scale. Analysis by low temperature solid-state NMR will provide unique insight into those solutes precursors.

## Keywords

prenucleation clusters, solid state NMR, milliseconds time-resolved approach

## Description of the Host Research Lab

The LCMCP is a well-known figure in the development of inorganic or organic-inorganic hybrid functional materials, and in the evaluation of their physico-chemical properties at different scales. These materials target applications with high societal impact, particularly in the fields of energy, health and the environment.

**To submit your application, please send an email with the required documents to**
**msca-pf@sorbonne-universite.fr**